In the Claims:

Please amend the claims as follows:

1. (Currently Amended) A computer system programmed to process a large data set ~~includes~~ comprising:

means for analyzing the data set; ~~and~~

means for applying a data compression technique to the analyzed data set such that the compressed analyzed data set has high fidelity in regions of interest and has lower fidelity in regions of lesser interest, and ~~wherein the computer system also comprises~~

means to automatically select a variable having a rate of change from the data set such that a high rate of change of the variable indicates the regions of interest and a low rate of change of the variable indicates the regions of lesser interest, wherein said data compression technique automatically adjusts between high fidelity and low fidelity based on said rate of change of said variable.

2. (Original) A computer system as claimed in claim 1 wherein the data compression technique comprises the use of a wavelet compression technique.

3. (Original) A computer system as claimed in claim 1 wherein the data compression technique produces high fidelity in geometric regions of interest at points in time of interest.

4. (Original) A computer system as claimed in claim 3 wherein the geometric region has a rapid change in the stress field or has a high deformation rate.

5. (Previously Presented) A computer system as claimed in claim 1 wherein the analyzed data set comprises a 4D data set.

6. (Previously Presented) A computer system as claimed in claim 1 wherein the analyzed data set comprises an analyzed data set of a fan blade containment analysis of a casing when a fan blade impacts a foreign object during use.

7. (Previously Presented) A computer system as claimed in claim 1 wherein the means for analyzing the data set comprises a means for finite element analysis.

8. (Original) A computer system as claimed in claim 1 wherein the computer system comprises a local workstation and a graphical display is produced at the local workstation.

9. (Currently Amended) A method for processing a large data set representing a geometry, the method comprising:

analyzing the data set and applying a data compression technique to the analyzed data set on a computer system such that the compressed analyzed data set has high fidelity in regions of interest and has lower fidelity in regions of lesser interest;

automatically selecting a variable having a rate of change from the data set such that a high rate of change of the variable indicates the regions of interest and a low rate of change of the variable indicates the regions of lesser interest, wherein said data compression technique automatically adjusts between high fidelity and low fidelity based on said rate of change of said variable; and

producing a graphical display of at least one view of the geometry.

10. (Original) A method as claimed in claim 9 wherein the data compression technique comprises using a wavelet compression technique.

11. (Original) A method as claimed in claim 9 wherein the data compression technique produces high fidelity in geometric regions of interest at points in time of interest.

12. (Original) A method as claimed in claim 11 wherein the geometric region has a rapid change in the stress field or has a high deformation rate.

13. (Previously Presented) A method as claimed in claim 9 wherein the analyzed data set comprises a 4D data set.

14. (Previously Presented) A method as claimed in claim 9 wherein the analyzed data set comprises an analyzed data set of a fan blade containment analysis of a casing when a fan blade impacts a foreign object during use.

15. (Previously Presented) A method as claimed in claim 9 wherein the analyzing of the data set comprises finite element analysis.

16. (Original) A method as claimed in claim 9 comprising producing a graphical display at a local workstation.

17. (Currently Amended) A computer system programmed to process a large data set ~~includes~~ comprising:

means for applying a data compression technique to the data set; ~~and~~

means for analyzing the compressed data set such that the analysis has high fidelity in regions of interest and has lower fidelity in regions of lesser interest; and ~~wherein the computer system also comprises~~

means to automatically select a variable having a rate of change from the data set such that a high rate of change of the variable indicates the regions of interest and a low rate of change of the variable indicates the regions of lesser interest, wherein said data compression technique automatically adjusts between high fidelity and low fidelity based on said rate of change of said variable.

18. (Original) A computer system as claimed in claim 17 wherein the data compression technique comprises the use of a wavelet compression technique.

19. (Original) A computer system as claimed in claim 17 wherein the data compression technique allows the analysis to take place in high fidelity in geometric regions of interest at points of time of interest.

20. (Original) A computer system as claimed in claim 17 wherein the geometric region has a rapid change in the stress field or has a high deformation rate.

21. (Original) A computer system as claimed in claim 17 wherein the data set comprises a 4D data set.

22. (Previously Presented) A computer system as claimed in claim 17 wherein the data set comprises a data set of a fan blade containment analysis of a casing when a fan blade impacts a foreign object during use.

23. (Previously Presented) A computer system as claimed in claim 17 wherein the means for analyzing the compressed data set comprises a means for finite element analysis.

24. (Original) A computer system as claimed in claim 17 wherein the computer system comprises a local workstation and a graphical display is produced at the local workstation.

25. (Currently Amended) A method for processing large data sets representing a geometry, the method comprising:

applying a data compression technique to the data set and analyzing the compressed data set on a computer system such that the analysis has high fidelity in regions of interest and has lower fidelity in regions of lesser interest;

automatically selecting a variable <u>having a rate of change</u> from the data set such that a high rate of change of the variable indicates the regions of interest and a low rate of change of the variable indicates the regions of lesser

interest, wherein said data compression technique automatically adjusts between high fidelity and low fidelity based on said rate of change of said variable; and

producing a graphical display of at least one view of the geometry.

26. (Original) A method as claimed in claim 25 wherein the data compression technique comprises using a wavelet compression technique.

27. (Original) A method as claimed in claim 25 wherein the data compression technique allows the analysis to take place in high fidelity in geometric regions of interest at points in time of interest.

28. (Original) A method as claimed in claim 25 wherein the geometric region has a rapid change in the stress field or has a high deformation rate.

29. (Original) A method as claimed in claim 25 comprising producing a graphical display at a local workstation.

30. (Original) A method as claimed in claim 25 wherein the data set comprises a 4D data set.

31. (Previously Presented) A method as claimed in claim 25 wherein the data set comprises a data set of a fan blade containment analysis of a casing when a fan blade impacts a foreign object during use.

32. (Previously Presented) A method as claimed in claim 25 wherein the analyzing of the compressed data set comprises finite element analysis.

33. (Previously Presented) A computer system programmed to process a large data set includes means for analyzing the data set, the means for analyzing the data set comprises means for solving mathematical expressions to produce an analyzed data set comprising a set of points within a problem domain, and

means for applying a data compression technique to the analyzed data set such that the compressed analyzed data set has high fidelity in regions of interest and has lower fidelity in regions of lesser interest, the data compression technique produces high fidelity in geometric regions of interest at points in time of interest, the geometric region has at least one of a stress field and a deformation rate and the geometric region has at least one of a rapid change in the stress field, a high stress field or a high deformation rate, the computer system comprises a local workstation and a graphical display, and the computer has means to automatically present the most significant cross-sectional views on the graphical display, the means to automatically present the most significant cross-sectional views automatically selects regions which have at least one of a stress, a deformation rate or other variable above a threshold.

34. (Previously Presented) A method for processing a large data set representing a geometry, the method comprising:

analyzing the data set on a computer system, the analyzing of the data set comprising solving mathematical expressions to produce an analyzed data set comprising a set of points within a problem domain, and

applying a data compression technique to the analyzed data set such that the compressed analyzed data set has high fidelity in regions of interest and has lower fidelity in regions of lesser interest, the data compression technique produces high fidelity in geometric regions of interest at points in time of interest, the geometric region has at least one of a stress field and a deformation rate and the geometric region has at least one of a rapid change in the stress field, a high stress field or a high deformation rate;

producing a graphical display at a local workstation; and

automatically presenting the most significant cross-sectional views of the geometry on the graphical display, the automatic presentation of the most significant cross-sectional views of the geometry comprising automatically selecting regions which have at least one of a stress, a deformation rate or other variable above a threshold.

35. (Previously Presented) A computer system programmed to process a large data set includes means for applying a data compression technique to the data set and means for analyzing the data set such that the analysis has high fidelity regions of interest and has lower fidelity in regions of lesser interest, the data compression technique allows the analysis to take place in high fidelity in geometric regions of interest at points in time of interest, the geometric region has at least one of a stress field and a deformation rate and the geometric region has at least one of a rapid change in the stress field, a high stress field or a high deformation rate, the computer system comprises a local workstation and a graphical display, and the computer has means to automatically present the most significant cross-sectional views on the graphical display, the means to automatically present the most significant cross-sectional views automatically selects regions which have at least one of a stress, a deformation rate or other variable above a threshold.

36. (Previously Presented) A method for processing a large data set representing a geometry, the method comprising:

applying a data compression technique to the data set; ~~and~~

analyzing the compressed data set on a computer system such that the analysis has high fidelity in regions of interest and has lower fidelity in regions of lesser interest, the data compression technique allows the analysis to take place in high fidelity in geometric regions of interest at points in time of interest, the geometric region has at least one of a stress field and a deformation rate and the geometric region has at least one of a rapid change in the stress field, a high stress field or a high deformation rate;

producing a graphical display at a local workstation; and

automatically presenting the most significant cross-sectional views of the geometry on the graphical display, the automatic presentation of the most significant cross-sectional views of the geometry comprising automatically

selecting regions which have at least one of a stress, a deformation rate or other variable above a threshold.

37. (Currently Amended) A computer system programmed to process a large data set comprising:

a server;

at least one workstation connected to the server; and

a display connected to the workstation, the server being programmed with software for analyzing the data set and for applying a data compression technique to the data set to form a compressed analyzed data set having higher fidelity in regions of interest and having lower fidelity in regions of lesser interest, the software programmed on the server automatically selecting a variable having a rate of change from the data set such that a high rate of change of the variable indicates the regions of interest and a low rate of change of the variable indicates the regions of lesser interest, wherein said data compression technique automatically adjusts between high fidelity and low fidelity based on said rate of change of said variable, the workstation being configured to graphically display the compressed analyzed data set on the display so that the regions of lesser interest are viewed at a reduced resolution compared to the resolution in the regions of interest.

38. (Previously Presented) A computer system according to claim 37, wherein the server or workstation is programmed to automatically present a view of a region of the compressed analyzed data set having the most rapid changes in the variable.

39. (Previously Presented) A computer system according to claim 37, wherein the data compression technique comprises the use of a wavelet compression technique.

40. (Previously Presented) A computer system according to claim 37, wherein the analyzed data set comprises a 4D data set.

41. (Previously Presented) A computer system according to claim 37, wherein the analyzed data set comprises an analyzed data set of a fan blade containment analysis of a casing when a fan blade impacts a foreign object during use.

42. (Previously Presented) A computer system according to claim 37, wherein the means for analyzing the data set comprises a means for finite element analysis.